

WATER REUSE SYSTEM SUBMITTALS

On or about May 1, 2003, the newly created s. Comm 82.70 will become effective. This code section will allow graywater to be reused for various end uses. s. Comm 81.01 (112) defines Graywater as wastewater contaminated by waste materials, exclusive of urine, feces or industrial waste, deposited into plumbing drain systems. Blackwater may not be reused. s. Comm 81.01 (31) defines Blackwater as wastewater contaminated by human body waste, toilet paper and any other material intended to be deposited in a receptor designed to receive urine or feces. For reuse water to be acceptable for a given end use, the water must meet the "Plumbing Treatment Standards" displayed in Table 82.70-1 as shown below:

**Table 82.70-1
PLUMBING TREATMENT STANDARDS**

Intended Use	Plumbing Treatment Standards
Drinking, cooking, food processing, preparation and cleaning, pharmaceutical processing, and medical uses	NR 811 and 812 approved sources
1. Personal hygiene, bathing, and showering, clothes washing, etc.	NR 811 and 812 approved sources
3. Automatic fire protection systems	As acceptable by local authority
4. Swimming pool make up water	NR 811 and 812 approved sources to private water supplies
5. Swimming pool fill	Pool fill requirements in accordance with ch. HFS 172
6. Once through cooling	pH 6-9 ^c ≤ 30 mg/L BOD ₅ ≤ 30 mg/L TSS ≤ 200 fecal coliform/100 mL ≥ 1 mg/L chlorine residual ^c
7. Subsurface dispersal/irrigation ^{b, d, e}	≤ 30 mg/L oil and grease ≤ 30 mg/L BOD ₅ ≤ 150 mg/L TSS ≤ 200 fecal coliform/100 mL
8. Surface or spray irrigation of any food crop, including crops eaten raw, non- commercial only ^{a, e}	pH 6-9 ^c ≤ 10 mg/L BOD ₅ ≤ 5 mg/L TSS no detectable fecal coliform/100 mL ≥ 1 mg/L chlorine residual ^c
9. Surface irrigation, vehicle washing, toilet and urinal flushing, air conditioning and other urban uses with similar human access or exposure to the water ^{d, e}	pH 6-9 ≤ 10 mg/L BOD ₅ ≤ 5 mg/L TSS no detectable fecal coliform/100 mL ≥ 1 mg/L chlorine residual ^c
10. Soil compaction, dust control, washing aggregate and making concrete	≤ 30 mg/L BOD ₅ ≤ 30 mg/L TSS ≤ 200 fecal coliform/100 mL ≥ 1 mg/L chlorine residual ^c
11. Irrigation of sod farms, silviculture sites and other areas where human access is prohibited or restricted ^e	pH 6-9 ^c ≤ 30 mg/L BOD ₅ ≤ 30 mg/L TSS ≤ 200 fecal coliform/100 mL ≥ 1 mg/L chlorine residual ^c
12. Uses not specifically listed above	Contact department for approval

- ^a = Refer to the Department of Agriculture, Trade and Consumer Protection for commercial use.
- ^b = Refer to ch. Comm 82 for domestic wastewater treatment requirements.
- ^c = Applies only to wastewater treatment devices for reuse systems. Other equivalent disinfection methods may be approved by the department.
- ^d = Stormwater collected from parking lots and industrial sites may not be infiltrated prior to pretreatment.
- ^e = These requirements do not apply to the treatment of industrial wastewater or other wastewater discharges that are subject to a WPDES permit issued by the Department of Natural Resources.

In most cases, graywater will need to be treated prior to being reused. The level of treatment required is directly related to level of reuse as indicated in Table 82.70.

Water reuse systems designed to comply with Table 82.70 must be reviewed and approved by the department before they can be legally sold or installed in Wisconsin. The procedure used to achieve approval depends on the specific nature of the reuse system. There are two primary options:

1. Water reuse systems requiring only that an inlet, outlet and possibly drain connections be made would be submitted as a product. An example of this would be a pre-fabricated skid mounted type of unit, which may consist of a series of wastewater treatment devices that are sold as a unit (interconnected).
2. Water reuse systems that require plumbing work to be performed between the various wastewater treatment components that comprise the overall reuse system must be submitted for plumbing plan review. An example of a system of this type would be a series of wastewater treatment devices purchased as separate components that would need to be plumbed together onsite.

Regardless of the specific designs, all graywater reuse systems require departmental approval.

This is an exciting new initiative for the department, plumbing professionals, and Wisconsin consumers. This may also be one of the boldest water conservation opportunities to date in Wisconsin. Together with the newly created storm water regulations, the opportunity exists to reverse present water use trends, many of which are wasteful and have been in place for many years. For example, presently there are areas of the Fox Valley in North Eastern Wisconsin where the water tables are subsiding at a rate exceeding 4 feet per year; simple math reveals what the future holds if these types of trends persist.

These initiatives will benefit future generations of Wisconsin residents. There is no reason why anyone should ever experience an unfulfilled want for water within the truly water rich State of Wisconsin.

If you have any questions pertaining to water reuse, water reuse system submittals or water treatment in general, feel free to contact Glen Schlueter at 608-267-1401 or gschlueter@commerce.state.wi.us.